

IN THE CLAIMS

Please amend the claims as follows:

1. (Previously Presented) A method of generating a monaural signal comprising a combination of at least two input audio signals, said method comprising the steps of:

dividing said at least two input audio signals into a plurality of sequential segments;

summing, for each of the sequential segments of said audio signals, corresponding frequency components from respective frequency spectrum representations for each audio signal to form a set of summed frequency components for each sequential segment;

calculating, for each of the sequential segments, a correction factor for each of a plurality of frequency bands (i) as function of the energy of the frequency components of the summed frequency components in said band ($\sum_{k \in i} |S(k)|^2$) and the energy of said frequency components of the input audio signals in said band

($\sum_{k \in i} \{ |L(k)|^2 + |R(k)|^2 \}$);

correcting each summed frequency component as a function of the correction factor (m(i)) for the frequency band of said component; and

outputting said corrected summed frequency components as said monaural signal.

2. (Previously Presented) The method as claimed in claim 1,
wherein said method further comprises the steps of:

providing a respective set of sampled signal values for
each of a plurality of sequential segments for each input audio
5 signal; and

transforming, for each of said plurality of sequential
segments, each of said set of sampled signal values into the
frequency domain to provide complex frequency spectrum
representations of each input audio signal.

3. (Previously Presented) The method as claimed in claim 2,
wherein the step of providing said sets of sampled signal values
comprises:

combining, for each input audio signal, overlapping
5 segments into respective time-domain signals representing each
input audio signal for a time window.

4. (Previously Presented) The method as claimed in claim 1,
wherein said method further comprises the step of:

converting, for each sequential segment, said corrected
frequency spectrum representation of said summed frequency
5 components into the time domain.

5. (Previously Presented) The method as claimed in claim 4,
wherein said method further comprises the step of:

applying overlap-add to successive converted summed signal representations to provide a final summed signal.

6. (Previously Presented) The method as claimed in claim 1 wherein two input audio signals are summed, and wherein said correction factors (m(i)) are determined according to the function:

$$m^2(i) = \frac{\sum_{k \in i} \{ |L(k)|^2 + |R(k)|^2 \}}{2 \sum_{k \in i} |S(k)|^2} = \frac{\sum_{k \in i} \{ |L(k)|^2 + |R(k)|^2 \}}{2 \sum_{k \in i} |L(k) + R(k)|^2} .$$

7. (Previously Presented) The method as claimed in claim 1, wherein two or more input audio signals are summed according to the function:

$$S(k) = C(k) \sum_n w_n(k) X_n(k)$$

5 wherein C(k) is the correction factor for each frequency component, and wherein said correction factors for each frequency band are determined according to the function:

$$m^2(i) = \frac{\sum_n \sum_{k \in i} |w_n(k) X_n(k)|^2}{n \sum_{k \in i} \left| \sum_n w_n(k) X_n(k) \right|^2}$$

10 wherein w_n(k) comprises a frequency-dependent weighting factor for each input audio signal.

8. (Previously Presented) The method as claimed in claim 7, wherein w_n(k)=1 for all input audio signals.

9. (Previously Presented) The method as claimed in claim 7, wherein $w_n(k) \neq 1$ for at least some of the input audio signals.

10. (Previously Presented) The method as claimed in claim 7, wherein the correction factor for each frequency component is derived from a linear interpolation of the correction factors for at least one band.

11. (Previously Presented) The method as claimed in claim 1, wherein said method further comprises the steps of:

determining, for each of said plurality of frequency bands, an indicator of the phase difference between frequency components of said audio signals in a sequential segment; and

prior to summing corresponding frequency components, transforming the frequency components of at least one of said audio signals as a function of said indicator for the frequency band of said frequency components.

12. (Previously Presented) The method as claimed in claim 11, wherein said transforming step comprises operating the following functions on frequency components of left and right input audio signals:

$$\begin{aligned} L'(k) &= e^{jc\alpha(i)} L(k) \\ R'(k) &= e^{-j(1-c)\alpha(i)} R(k) \end{aligned}$$

wherein $0 \leq c \leq 1$ determines the distribution of phase alignment between the said input audio signals.

13. (Previously Presented) The method as claimed in claim 1, wherein said correction factor is a function of a sum of energy of the frequency components of the summed signal in said band and a sum of the energy of said frequency components of the input audio signals in said band.

14. (Previously Presented) An apparatus for generating a monaural signal from a combination of at least two input audio signals, comprising:

a segmenter for dividing said at least two input audio signals into a plurality of sequential segments;

a summer for summing, for each of the sequential segments of said audio signals, corresponding frequency components from respective frequency spectrum representations for each audio signal to form a set of summed frequency components for each sequential segment;

means for calculating a correction factor for each of a plurality of frequency bands (i) of each of said plurality of sequential segments as function of the energy of the frequency components of the summed frequency components in said band

$(\sum_{k \in i} |S(k)|^2)$ and the energy of said frequency components of the input audio signals in said band $(\sum_{k \in i} \{ |L(k)|^2 + |R(k)|^2 \})$; and

a correction filter for correcting each summed frequency component as a function of the correction factor for the frequency band of said component, said correction filter outputting the
20 monaural signal.

15-16. (Cancelled).